Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of:	)	
	)	
Unbundled Access to Network Elements	)	WC Docket No. 04-313
	)	
Review of the Section 251 Unbundling Obligation of Incumbent Local Exchange Carriers	)	CC Docket No. 01-338

REPLY COMMENTS OF RENAISSANCE INTEGRATED SOLUTIONS, LLC

Summary

Renaissance Integrated Solutions, LLC ("RIS") has patented a proven technology known as the Dual Purpose Rehabilitation Solution (the "DPR Solution"), which entirely disrupts the traditional economics of constructing "last mile" fiber connectivity. The DPR Solution enables municipalities to replace dilapidated sewer or water pipes in accordance with federal mandates and simultaneously install a completely separate "last mile" fiber optic conduit system that directly connects to all business and homes on the sewer or water system.

RIS is currently implementing the DPR Solution throughout the entire central business district of New Orleans (where approximately 400 buildings will be connected in the first phase of the project expected to be completed by the end of 2005) and is currently designing projects in several other cities, including but not limited to San Diego, Los Angeles, and Detroit. Because the DPR Solution is implemented with municipal dollars previously earmarked for federally mandated sewer or water infrastructure rehabilitation, *there is virtually no incremental construction cost related to the simultaneous creation of a ubiquitous "last mile" fiber conduit system*.

RIS and its municipal partners effectively jointly own the "last mile" fiber conduit systems created by the DPR Solution and expect to lease them at competitive market rates to any and all telecommunications companies on an "open access" or carrier-neutral basis. As a result, RBOCs and CLECs alike seeking to connect directly to business and residential customers through a "last mile" fiber conduit system will not need to bear the costs of building their own "last mile" fiber networks. Multiple telecommunications service providers can lease or purchase affordable connectivity from RIS and its municipal partners at a fraction of the traditional cost of construction, eliminating the need for the Commission to mandate access through unbundled network element regulations.

In its negotiations with telecommunications service providers, RIS's experience is that demand for access to the fiber conduit system it installs with the DPR Solution would be artificially limited if the Commission were to reinstate unbundled network element regulations for high-capacity facilities. If the Commission again mandates that incumbents provide unbundled access high-capacity facilities in their existing networks, competitors (and incumbents) will have substantially reduced incentives to seek viable and economical alternative sources for customer access, such as that provided by RIS and the DPR Solution.

The Commission has taken notice of the efficacy and creativity of the DPR Solution in its September 9, 2004 "Fourth Report to Congress: Availability of Advanced Telecommunications Capability in the United States." There, the Commission noted:

> "Fiber-to-the-home deployments highlight carrier creativity. For instance, ***Renaissance Integrated Solutions*** has created a broadband solution based on repairing failing sewer systems with a trenchless technology known as 'pipe bursting.' Renaissance's solution simultaneously replaces main line and lateral sewer and water pipes with two separate conduit systems: one for long-term sewer and water use, and one for a ubiquitous fiber optic conduit system. Because sewer and water systems run to every building, this solution would effectively facilitate a FTTH system where it is installed." (Emphasis added).

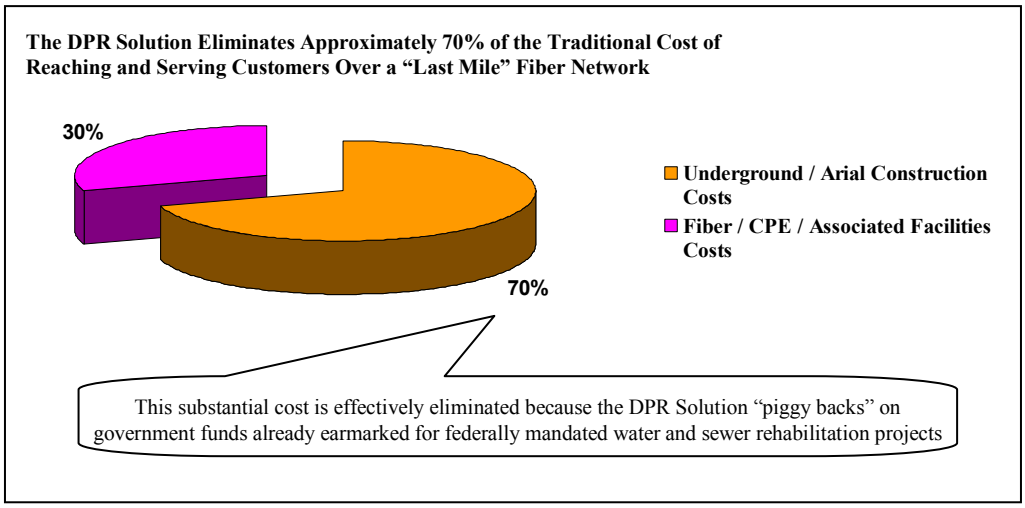
Given that one of the goals of the 1996 Telecommunications Act is to promote competition within the telecommunications industry, RIS believes that the Commission should (i) eliminate unbundled network element regulations that mandate access because wide-spread, affordable and competitively priced access is available through the implementation of the DPR Solution and (ii) seek to work with RIS, the federal EPA, and other state and local government agencies that control, regulate, fund, and operate sewer and water systems in the United States in an effort to promote the myriad benefits of implementing the DPR Solution at virtually no incremental cost to federally mandated water and sewer rehabilitation projects.

Disrupting Traditional Construction Economics

From the perspective of most telecommunications service providers, the cost of constructing "last-mile" fiber connectivity utilizing traditional construction methodologies, relative to the economic benefit of owning such a system, is often prohibitive. As a result, direct fiber connections currently reach only a fraction of U.S. homes and businesses. Many telecommunications industry analysts have suggested that the only way such a system will be built is if the government plays a role, either through direct construction cost subsidization to individual telecommunications companies, price regulations, or otherwise. RIS believes that the government does have a role to play in facilitating the construction of "last mile" fiber connectivity, but not through direct construction cost subsidization to individual telecommunications companies or through price regulation. Rather, through *indirect construction cost subsidization* the government can support the implementation of the DPR Solution at virtually no incremental construction cost to what is already being spent on federally mandated water and sewer pipeline rehabilitation projects. All telecommunications service providers and

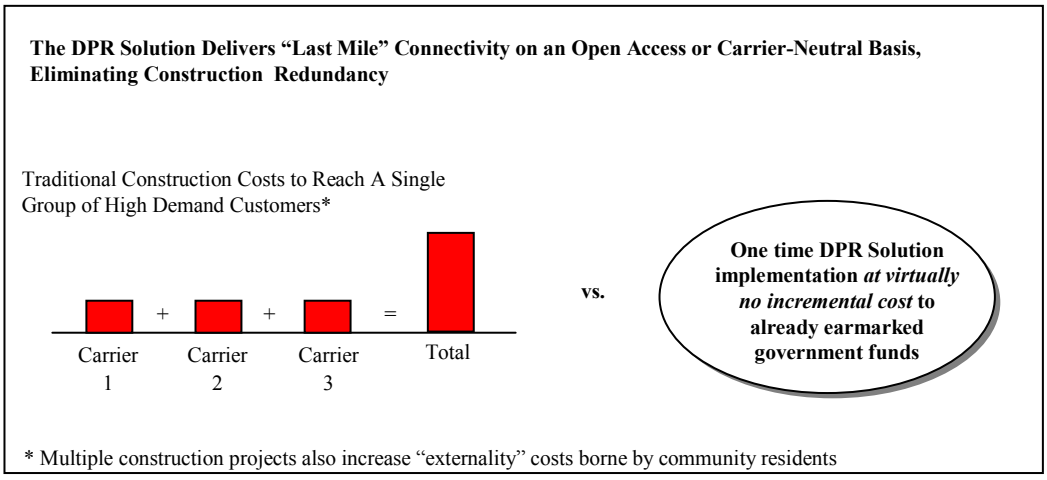
consumers will benefit from such infrastructure enhancement. Figure 1 below depicts the amount of construction cost savings that can be achieved through the implementation of the DPR Solution.

Figure 1



Through the implementation of the DPR Solution, not only are connectivity costs for each individual telecommunications company reduced significantly but the overall spending by telecommunications companies in the aggregate is also greatly reduced. Because the implementation of the DPR Solution enables *multiple* telecommunications service providers access to the same buildings it will no longer be necessary for several telecommunications companies to dig up the same streets on different occasions in an effort to reach the same group of customers. The DPR Solution provides indirectly subsidized access, resulting in enhanced service offerings to customers at competitive prices at virtually no incremental cost to funds already budgeted for federally mandated water and sewer rehabilitation projects. Figure 2 below depicts these economic benefits.

Figure 2



The DPR Solution, therefore, enables the deployment of "last mile" fiber connectivity to every business and residence and that is passed by a sewer or water distribution / collection line. Such widespread fiber connectivity to the vast majority of buildings and homes in the United States can be achieved through this unique and innovative solution at 30% of the cost of traditional construction methodologies and at virtually no incremental cost to funds already budgeted for federally mandated water and sewer pipeline rehabilitation.

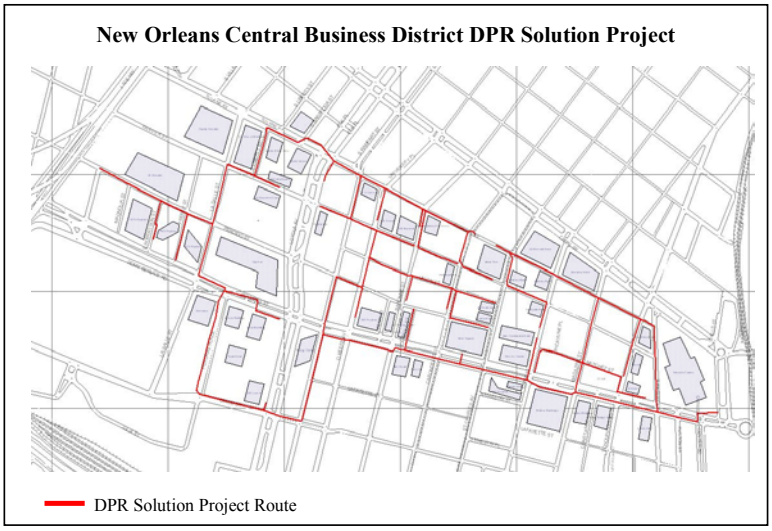
Federally Mandated Water and Sewer Rehabilitation Projects

U.S. municipalities are *required* by federal law to spend approximately $1 trillion over the next 20 years and hundreds of billions by 2010 to rehabilitate their deteriorating underground sewer and water pipeline infrastructure. While there is agreement that such projects serve the nation's best interests, municipalities face the unappealing prospect of paying for this rehabilitation work through the only means currently available: raising monthly taxes for water and sewer services in many cases by up to 500%. Though the implementation of the DPR Solution, however, municipalities can use the revenues generated by the leasing or sale of the "last mile" fiber conduit system to help offset the cost of rehabilitating their sewer and water infrastructure. As with all good and services valued by a free market system, the revenue that RIS and its municipal partners can earn by leasing access to the "last mile" fiber conduit system created by the DPR Solution depends on many factors, including but not limited to its geographic location and proximity to large telecommunications customers.

RIS is currently working with cities across the United States to plan DPR Solution projects. New Orleans Mayor C. Ray Nagin and the Sewerage and Water Board of New Orleans have partnered with RIS to implement the DPR Solution on a wide scale. Phase one of the current project scope encompasses the rehabilitation of approximately 50,000 feet of main line and lateral sewer pipe in New Orleans' central business district. The resulting fiber optic conduit network will connect directly into several hundred buildings, exponentially increasing connectivity and making New Orleans the premier "all-digital" city in the United States (see Figure 3 below). Upon completion of the central business district, New Orleans will likely seek to expand the scope of the project work to include additional commercial and residential areas within the city, including all neighborhoods connected to the sewer and water system irrespective of population density, geographic location or socio-economic status.

RIS is also in the project planning phase with several other cities, including but not limited to San Diego, Los Angeles, and Detroit. The sewer and water rehabilitation projects being implemented by this group of cities represents only a small portion of the pipeline rehabilitation work in the United States, which has been federally mandated by the federal EPA under The Clean Water Act of 1972.

Figure 3



The DPR Solution

The patented DPR Solution simultaneously solves both the pipeline infrastructure and the telecommunications "last mile" crises for the cost of one. The DPR Solution completely rehabilitates aging sewer and water pipelines and at the same time creates secure, accessible, and completely separate ubiquitous fiber optic conduit systems (see Figures 4 and 5 below). The city-wide fiber conduit systems created by the DPR Solution directly reach enterprises and households in the "last mile" and support the delivery of high-demand "next generation" communications services that are unavailable on a widespread basis today. The DPR Solution is based on the trenchless (*i.e.*, the DPR Solution can be implemented without digging up the entire street) pipe bursting technology developed by British Gas that has achieved deep market penetration over the past 25 years. The Commission can view an animated depiction of the DPR Solution in action at RIS's website *http://www.rensols.com/demo.php*. Also, the materials attached to these reply comments provide greater detail on the benefits of the DPR Solution *vis-à-vis* other pipeline rehabilitation technologies and other "pipe in a pipe" last mile solutions.

Figures 4 and 5

The bursting head (black) breaks the old pipe out of the way and drags behind it a new replacement sewer pipe (black) and a completely separate series of fiber optic conduits (red/blue)

The new replacement sewer pipe (white) and a completely separate series of fiber optic conduits (red/blue/green) are inserted underground by digging only a small entrance pit

Effect of The Commission's Regulations Concerning Unbundled Network Elements for High-Capacity Facilities

Since 2002, RIS has been involved in negotiations with both competitive and incumbent telecommunications service providers in New Orleans and elsewhere over the terms of access to the "last mile" fiber conduit system created by the DPR Solution. While RIS always generated a high level of interest in its "last mile" solution from telecommunications service providers, competitors often insisted that despite the substantial construction cost savings generated by the DPR Solution, it generally remained cheaper still to obtain facilities from incumbents as unbundled network elements. However, RIS's negotiations over the terms of access have progressed substantially following the D.C. Circuit's decision vacating the Commission's rules requiring unbundling of high-capacity facilities and The Commission's decision not to appeal this decision. The Commission's old rules requiring unbundling of high-capacity facilities effectively acted as a "crutch" in that telecommunications service providers (particularly competitors) relied on them as an excuse not to seek viable and economical alternative access solutions such as the DPR Solution. RIS's experience, therefore, is that even though it is plainly economic for competitors and incumbents to deploy fiber using the conduits made available through the DPR Solution, the continued availability of unbundled network elements reduces the incentive of competitors and incumbents alike to invest in deploying these new facilities.

Conclusion

The DPR Solution delivers myriad benefits and creates a "win-win" situation for all interested parties. While the goal of traditional pipeline rehabilitation is simply to restore the *status quo ante* at significant expense borne by taxpayers, the DPR Solution (i) monetizes existing pipeline infrastructure through the lease of fiber conduits to communications service providers thereby reducing the tax burden on constituents, (ii) completely solves the environmental problems created by deteriorating pipeline infrastructure, (iii) mitigates overall pipeline rehabilitation project costs, (iv) revitalizes local economic landscapes by creating "all-digital" cities, and (v) bridges the "digital divide" through the delivery of numerous tangible benefits (*e.g.*, facilitating training and education) to all constituent groups irrespective of size, socio-economic status or geographic location. In sum, RIS turns more than $1 trillion of desperately needed and federally mandated pipeline rehabilitation *problems into opportunities* that will shape national and global growth trajectories in the 21st century.

The continued availability of incumbents' high-capacity facilities as unbundled network elements at very low, regulated rates, will undermine RIS's ability to provide competitors and incumbents alike with access to these newly constructed, last-mile fiber facilities, by substantially reducing the incentive to use alternative facilities rather than the incumbents' existing networks.

Given that one of the goals of the 1996 Telecommunications Act is to promote competition within the telecommunications industry, RIS believes that the Commission should (i) eliminate unbundled network element regulations that mandate access because wide-spread, affordable and competitively priced access is available through the implementation of the DPR Solution and (ii)

seek to work with RIS, the federal EPA, and other state and local government agencies that control, regulate, fund, and operate sewer and water systems in the United States in an effort to promote the myriad benefits of implementing the DPR Solution at virtually no incremental cost to federally mandated water and sewer rehabilitation projects.

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Respectfully submitted,

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